UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/653,039	08/29/2003	Ian M. Bennett	PHO 99004CIP	1543

23694 7590 12/04/2008

J. NICHOLAS GROSS, ATTORNEY
2030 ADDISON ST.
SUITE 610
BERKELEY, CA 94704

EXAMINER	
LERNER, MARTIN	

ART UNIT	PAPER NUMBER
2626	

MAIL DATE	DELIVERY MODE
12/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/653,039	BENNETT, IAN M.	
	Examiner	Art Unit	
	MARTIN LERNER	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 November 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 to 15 and 22 to 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 to 15 and 22 to 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *[7]*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

The Information Disclosure Statement filed 05 November 2008 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because it does not represent published prior art, but is only work product for purposes of litigation. It has been placed in the application file, but the information referred to therein has not been considered as to the merits. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing elements will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 30 to 31 and 33 to 34 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably

convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

The limitation of the corresponding recognized matches having "variable word lengths" is new matter because Applicant's Specification as originally filed does not disclose that feature. U.S. Patent Publication No. 2004/0117189, which is the publication of the current application, discloses at ¶[0345] to ¶[0352], a word by word comparison of a user's question and a stored question, where a user's question may have n words and the stored question may have m words. However, the Specification as originally filed does not disclose anything about the lengths of each of the words within a question being variable.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 to 3, 6 to 9, 13, 22, 24 to 26, 28, 30 to 31, and 33 to 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)*.

Concerning independent claims 1 and 22, *Crespo et al. ('179)* discloses a speech recognition system and method, comprising:

"a speech recognition engine for generating recognized words taken from an articulated speech utterance" – spoken language system 100 comprises a CSR (continuous speech recognition component) 120; input means 110 receives a spoken input in the form of a sentence which is passed to the CSR 120; acoustic phonetic information is fed to the CSR 120 in a conventional manner, typically to constrain the search space of the recognizer (column 6, lines 41 to 48: Figure 2);

"a natural language engine configured for linguistically processing said recognized words [to generate search predicates for said articulated speech utterance]" – spoken language system 100 comprises a NLU (natural language understanding component) 130 (column 6, lines 41 to 48: Figure 2);

"said natural language engine being further configured for linguistically processing said set of one or more corresponding recognized matches to determine a final match for said articulated speech utterance using both semantic decoding and statistical based processing performed on said recognized words" – language knowledge 150 includes both statistical information 160 and semantic information 170 for producing a meaning to CSR 120 and NLU 130 (column 6, lines 48 to 65: Figure 2).

Concerning independent claims 1 and 22, *Crespo et al. ('179)* does not expressly disclose that the natural language engine generates "at least two different types of search predicates for said articulated speech utterance", or "wherein said search predicates correspond to logical operators to be satisfied by a potential recognition match", or "a query formulation engine adapted to convert said recognized words and said search predicates into a structured query suitable for locating a set of one or more

corresponding recognized matches for said articulated speech utterance", or "wherein said semantic decoding is performed on entire sentences contained in said articulated speech utterance to determine semantic variants of said word sentence in said one or more corresponding recognized matches". However, *Braden-Harder et al. ('822)* teaches:

"wherein said search predicates correspond to logical operators to be satisfied by a potential recognition match" – typically, a query contains one or more user-supplied keywords, and possibly Boolean (such as "AND" and "OR") or similar (such as numeric proximity) operators situated between keywords (column 2, lines 10 to 17); processor 30 analyzes a query as a logical form for semantic relationships between words in a linguistic phrase in a sentence (column 7, line 46 to column 8, line 6: Figure 1); a logical form is a "search predicate" and a "logical operator";

"at least two different types of search predicates for said articulated speech utterance" – "a first search predicate" is a full text query performed through the right branch of retrieval process 600 (column 15, lines 9 to 42: Figure 6A: Steps 610 and 635); "a second search predicate" is produced from a set of logical triples in a NLU routine 700 through the left branch of retrieval process 600 (column 15, lines 9 to 42: Figure 6A: Step 645);

"a query formulation engine adapted to convert said recognized words and said search predicates into a structured query suitable for locating a set of one or more corresponding recognized matches for said articulated speech utterance" – processor 30 compares a set of forms of the query against a set of logical forms associated with

each of the documents in the set to ascertain any match between logical forms in the query set and logical forms for each document (column 7, line 46 to column 8, line 6);

"wherein said semantic decoding is performed on entire sentences contained in said articulated speech utterance to determine semantic variants of said word sentence in said one or more corresponding recognized matches" – a sentence 510, "The octopus has three hearts", is morphologically analyzed to normalize different words forms, *e.g.*, a verb tense and singular-plural noun variations (column 12, lines 30 to 65: Figure 5A); similarly, a full-text query can be a sentence question, "Are there any air-conditioned hotels in Bali?" or "Give me contact information for all fireworks held in Seattle during the month of July." (column 15, lines 11 to 16); an input string is used to generate logical forms that portray a semantic relationship between words (column 11, lines 41 to 55); thus, morphological analysis normalizes for semantic variants of verb tense and nouns plurals.

Concerning independent claims 1 and 22, *Braden-Harder et al. ('822)* suggests an objective is to improve the accuracy of keyword-based natural language document searching. (Column 5, Lines 1 to 7) It would have been obvious to one having ordinary skill in the art to incorporate a system and method employing at least two different search predicates with logical operators into a structured query for locating corresponding matches as taught by *Braden-Harder et al. ('822)* into a search optimization system and method for continuous speech recognition of *Crespo et al. ('179)* for a purpose of improving the accuracy of keyword-based document searching.

Concerning claim 2, *Braden-Harder et al. ('822)* teaches "a first level query" is a full text query performed through the right branch of retrieval process 600 (column 15, lines 9 to 42: Figure 6A: Steps 610 and 635); "a second level query" is produced by comparing each of the logical form triples in the query against each of the logical form triples of the retrieved documents, and discarding documents that do not exhibit a matching triple (column 16, lines 1 to 18: Figure 6A: Steps 650 and 655); thus, "a second level query" is produced by paring down the matching documents ("said set of electronic records") based on semantic constraints; an information retrieval system is based on documents in a dataset from the world wide web (column 8, lines 10 to 14); documents from the world wide web are "a set of electronic records".

Concerning claims 3 and 24, *Braden-Harder et al. ('822)* teaches that the operations in Step 645 are performed in parallel with the operations in Steps 610 and 635 (column 15, lines 48 to 53: Figure 6A); operation in parallel implies that the operations occur at the same time ("during a time" or "overlap in time").

Concerning claim 6, *Braden-Harder et al. ('822)* teaches a web browser 420 operating on a client computer 300 and a search engine 225 operating on a server computer 220 (column 8, lines 30 to 55: Figure 2).

Concerning claims 7, 8, and 26, *Braden-Harder et al. ('822)* teaches that logical form triples can be noun phrases (NP) (column 12, lines 39 to 65: Table 1; column 14, lines 41 to 49); documents with the highest score are obtained by matching logical forms of a query against a set of logical forms of each of the documents (column 7, line

55 to column 8, line 6); thus, noun phrases as logical form triples produce documents with the highest score ("said final match").

Concerning claim 9, *Crespo et al. ('179)* discloses a search optimization system for real time response (column 1, lines 21 to 26).

Concerning claim 13, *Braden-Harder et al. ('822)* teaches an ALTA VISTA search engine for accessing documents through the World Wide Web ("a web page") (column 8, lines 30 to 55: Figure 2).

Concerning claim 25, *Braden-Harder et al. ('822)* teaches "a preliminary query" is a full text query performed through the right branch of retrieval process 600 (column 15, lines 9 to 42: Figure 6A: Steps 610 and 635); "a final query" is produced from a set of logical triples in a NLU routine 700 through the left branch of retrieval process 600 and comparing them against each of the logical forms of the documents retrieved from a full text query (column 15, line 64 to column 16, line 5: Figure 6A: Step 650).

Concerning claim 28, *Braden-Harder et al. ('822)* teaches retrieving documents from multiple servers (column 9, lines 13 to 22; column 10, lines 12 to 22; column 10, lines 41 to 49).

Concerning claims 30 to 31 and 33 to 34, *Braden-Harder et al. ('822)* teaches each of the logical form triples in the query is compared against each of the logical form triples for the retrieved documents; each different type relation that can arise in a logical form triple is assigned a corresponding weight, reflecting the relative importance ascribed to that relation in indicating a correct semantic match between a query and a document; a final match is obtained by ranking a numeric sum of the weighted matching

triples ("said final match is also based on evaluating a degree of coverage") (column 16, lines 1 to 5; column 16, lines 21 to 31); weights for each logical form represent "coefficients", where there are N logical forms that are being compared between the query and the documents, *i.e.* word1a-relation1-word2a, word1b-relation2-word2b, . . . , word1n-relationn-word2n; implicitly, words have variable length because they have different numbers of letters; one skilled in the art would understand that a plurality of weighted triples, where each triple from a query is paired with each triple from a document, can be represented as a matrix, because the plurality of weights can be written in an array.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claim 1 above, and further in view of *McDonough et al.*

Crespo et al. ('179) omits calculating a term frequency based on a lexical distance between each word and one or more topic queries, although this is merely one way of scoring similarity between words. However, *McDonough et al.* teaches topic discrimination for a speech recognition system, where event frequency detectors 12, 38 are employed for word spotting of event occurrence patterns, and the events are words ("term frequency calculation"). (Column 6, Line 55 to Column 7, Line 25; Column 8, Lines 30 to 53: Figures 1 and 3) One preferred method employs a Kullback-Liebler distance measure ("lexical distance"), providing a measure of dissimilarity of the occurrence patterns of an event for a given topic ("topic query entries") as opposed to

all other topics. (Column 11, Lines 40 to 60) It is suggested that improved speech recognition can be achieved if a potential topic can be detected for a set of potential speech events. (Column 3, Line 63 to Column 4, Line 24) It would have been obvious to one having ordinary skill in the art to calculate a term frequency based on a lexical distance between words and one or more topic queries as taught by *McDonough et al.* in a search optimization system of *Crespo et al. ('179)* for a purpose of improving speech recognition by topic discrimination.

Claims 5, 14, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claims 1 and 22 above, and further in view of *Appelt et al. ('026)*.

Braden-Harder et al. ('822) omits context parameters for generating search predicates, SQL search predicates, and providing a match as an audible response. However, these are all well known features of interactive voice response (IVR) systems. Specifically, *Appelt et al. ('026)* teaches information retrieval by natural language querying, where documents are associated with a topic, *e.g.* joint ventures, education, medicine, or law. (Column 5, Lines 37 to 45; Column 6, Lines 62 to 67) A topic is equivalent to a "context parameter" for a search predicate. A query may be executed as an SQL query. (Column 6, Lines 13 to 26) Each user query can be entered verbally and recognized by speech recognition, and a result can be provided to a text-to-speech (TTS) system that translates the text to speech for the user to hear. (Column 13, Lines 9 to 17; Column 13, Lines 39 to 41) An objective is to provide search results, along with

a concise summary, to users in a timely fashion, with high quality, properly packaged information that can assist users in making their decisions. (Column 4, Lines 22 to 34) It would have been obvious to one having ordinary skill in the art to incorporate the features taught by *Appelt et al. ('026)* involving topic parameters, SQL queries, and text-to-speech responses into an information retrieval system that employs natural language of *Braden-Harder et al. ('822)* for a purpose of presenting search results to users in a timely and high-quality package.

Claims 10 to 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claims 1 and 22 above, and further in view of *Barclay et al.*

Braden-Harder et al. ('822) discloses a client/server information retrieval system (Figure 2), but omits distributing speech recognition across a client-server architecture, so as to optimize an amount of speech to reduce recognition latencies, and where more than 100 potential matches are determined in less than 10 seconds. However, distributed speech recognition in a client-server architecture is well known. Specifically, *Barclay et al.* teaches a client-server speech recognizer, where processing capabilities are distributed between the client and the server. (Abstract) A client digitizes speech, extracts features, and quantizes the features, and a server performs speech recognition. (Column 4, Lines 1 to 9) Latency is reduced because a server dispatcher accepts and buffers messages before the recognizer is ready to receive and process the messages. (Column 7, Lines 28 to 32) A real-time response is obtained. (Abstract)

An application is to WWW browser queries involving an airline ticketing reservation form. (Column 8, Line 36 to Column 8, Line 30) Implicitly, real-time responses are produced in less than 10 seconds, and "notice" is taken that airline reservation applications involve more than 100 potential destinations. An objective is to process speech with large vocabularies and grammars in real time with a client computer being a laptop. (Column 4, Lines 10 to 16) It would have been obvious to one having ordinary skill in the art to incorporate the client/server architecture for distributed speech recognition of *Barclay et al.* into an information retrieval system of *Braden-Harder et al. ('822)* for a purpose of processing speech with large vocabularies and grammars in real time on a laptop.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claim 1 above, and further in view of *Agarwal et al. ('196)*.

Braden-Harder et al. ('822) omits a relational database that is updated asynchronously to reduce retrieval latency. However, *Agarwal et al. ('196)* teaches that it is common for relational databases to be updated in an asynchronous manner to avoid the inefficiencies of re-reading records. It would have been obvious to one having ordinary skill in the art to asynchronously update a relational database as taught by *Agarwal et al. ('196)* to search databases of *Braden-Harder et al. ('822)* for a purpose of avoiding inefficiencies of re-reading records.

Claims 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)* as applied to claims 1 and 22 above, and further in view of *Messerly et al. ('977)*.

Braden-Harder et al. ('822) teaches that a logical form portrays a semantic relationship between important words in a phrase that may include hypernyms and synonyms. (Column 11, Lines 41 to 46) The only element omitted is that the logical forms may represent hyponyms, but it is known that hyponyms are simply the opposite of hypernyms, where a hypernym of the word "vehicle" represents a more generic form of the word "automobile", so that the word "automobile" is a hyponym of "vehicle". However, *Messerly et al. ('977)* teaches information retrieval using semantic representation of text, where a tokenizer creates logical forms characterizing a semantic relationship between selected words in an input string, and constructs an index representing target documents. (Abstract) Logical forms include semantic relationships of hypernyms and hyponyms. (Column 6, Line 65 to Column 7, Line 59: Figure 4) An objective is to improve a tokenizer for information retrieval to reduce the number of identified occurrences of different senses and increase the number of identified occurrences in which semantically related terms are used. (Column 2, Lines 45 to 56) It would have been obvious to one having ordinary skill in the art to portray semantic relationships including hypernyms and hyponyms as taught by *Messerly et al. ('977)* in an apparatus and method for information retrieval of *Braden-Harder et al. ('822)* for a purpose of improving information retrieval to increase semantically related occurrences.

Response to Arguments

Applicant's arguments filed 06 November 2008 have been fully considered but they are not persuasive.

Concerning the rejection of independent claims 1 and 22 over *Crespo et al. ('179)* in view of *Braden-Harder et al. ('822)*, Applicant argues that *Crespo et al. ('179)* only applies statistical processing to CSR 120, but does not apply statistical processing to NLU 130.

Applicant's argument is appreciated but is not convincing. *Crespo et al. ('179)* clearly discloses applying semantic information 170 to NLU component 130 (Figure 2). Even if *Crespo et al. ('179)* is understood to apply statistical processing only to CSR component 120, as indicated by the arrow from regular grammar statistical models 160 to CSR component 120, *Braden-Harder et al. ('822)* still applies statistical processing to natural language information retrieval. Specifically, *Braden-Harder et al. ('822)* discloses comparing each of the logical form triples of retrieved documents to logical form triples in a query, and applies weights reflecting a correct semantic match when all three elements of one triple match corresponding elements of another triple. Then, a score is assigned to each document as a numeric sum of weights of matching triples, and documents are ranked in order of descending score. (Column 16, Lines 1 to 37) Thus, any suggestion of statistical and semantic processing by *Crespo et al. ('179)* is supplemented with a teaching of statistical processing by *Braden-Harder et al. ('822)*, where statistical processing including applying weights to matching triples and

calculating a document score by a numeric sum of weights of matching triples, is performed following semantic analysis.

Concerning the rejection of claim 2, as amended, Applicant argues that *Braden-Harder et al. ('822)* does not apply the second level query to the same set of records.

However, *Braden-Harder et al. ('822)* discloses "a second level query" is produced by comparing each of the logical form triples in the query against each of the logical form triples of the retrieved documents, and discarding documents that do not exhibit a matching triple. (Column 16, Lines 1 to 18: Figure 6A: Steps 650 and 655) Thus, "a second level query" is produced by paring down the matching documents ("said set of electronic records") based on semantic constraints.

Concerning the rejection of claims 7 and 8, Applicant argues that there is no indication that the noun phrases disclosed by *Braden-Harder et al. ('822)* could be used or adapted to be compatible with a speech recognizer of *Crespo et al. ('179)*.

Here, however, Applicant is merely raising doubts about the combination of *Crespo et al. ('179)* and *Braden-Harder et al. ('822)*, without producing any substantive argument. The stated motivation of the combination is that one skilled in the art could combine a information retrieval apparatus and method of *Braden-Harder et al. ('822)* to a natural language speech recognition system of *Crespo et al. ('179)* in a straightforward manner to improve accuracy of keyword-based document searching.

Concerning the rejection of claim 9, Applicant argues that there is no indication that modifying *Crespo et al. ('179)* in a manner suggested by *Braden-Harder et al. ('822)* would permit retention of real-time characteristics.

However, it is maintained that real-time operation of speech recognition and document retrieval is a fairly lax requirement because what is conventionally understood as real-time operation implies only that answers are obtained in a matter of seconds rather than hours or days. Given the state of processors, as well as expectations for progressive improvements in processor speed, at the time of invention, it would be reasonable to say that real time operation was contemplated by both *Crespo et al. ('179)* and *Braden-Harder et al. ('822)*.

Concerning the rejection of claim 4, Applicant argues that *McDonough et al.* does not disclose a specific term frequency calculation based on lexical distance for each word of a query.

However, *McDonough et al.* does suggest these features. *McDonough et al.* teaches topic discrimination for a speech recognition system, where event frequency detectors 12, 38 are employed for word spotting of event occurrence patterns, and the events are words ("term frequency calculation"). (Column 6, Line 55 to Column 7, Line 25; Column 8, Lines 30 to 53: Figures 1 and 3) One preferred method employs a Kullback-Liebler distance measure ("lexical distance"), providing a measure of dissimilarity of the occurrence patterns of an event for a given topic ("topic query entries") as opposed to all other topics. (Column 11, Lines 40 to 60)

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN LERNER whose telephone number is (571) 272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin Lerner/
Primary Examiner
Art Unit 2626
December 2, 2008